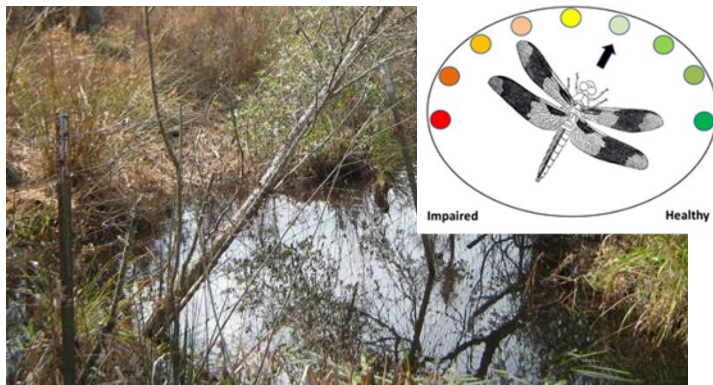


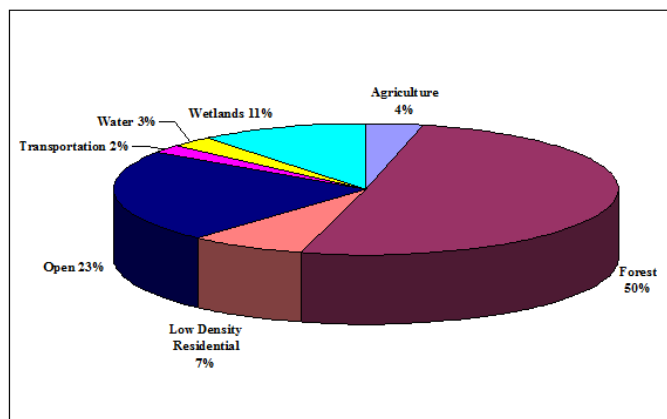
## Waterbody: Plantation Stream



## Basin: Lake Iamonia

Plantation Stream discharges from the Centerville watershed, essentially bounded by Proctor Road and Pisgah Church Road at Centerville Road, continuing west under Thomasville Road, before discharging into Lake Iamonia. The Centerville Conservation Community and Baker Place Subdivisions are located within the watershed. Most of the waterbodies are former farm ponds that were used for dairy and other agriculture practices.

While the following pie chart shows the majority of the 4,047 acre watershed is relatively undeveloped, residential, agricultural, and transportation uses make up approximately 13% of the watershed. Increases in stormwater runoff, and waterbody nutrient loads can often be attributed to these types of land uses.



## Background

Healthy, well-balanced stream communities may be maintained with some level of human activity, but excessive human disturbance may result in waterbody degradation. Human stressors may include increased inputs of nutrients, sediments, and/or other contaminants from watershed runoff, adverse hydrologic alterations, undesirable removal of habitat or riparian buffer vegetation, and introduction of exotic plants and animals. Water quality standards are designed to protect designated uses of the waters of the state (*e.g.*, recreation, aquatic life, fish consumption), and exceedances of these standards are associated with interference of the designated use.

## Methods

Surface water sampling was conducted to determine the health of Plantation Stream and met the requirements of the Florida Department of Environmental Protection (FDEP).

## Results

### Nutrients

According to FDEP requirements, Numeric Nutrient Criteria (NNC) (expressed as an annual geometric mean) cannot be exceeded more than once in a three year period. Due to low water conditions, four temporally independent samples per year were not collected from this station since 2011. However, for years with the minimum number of sampling events required to apply NNC, the state criteria were not exceeded for either parameter (2008-2010). Even though the minimum number of samples was not collected in 2014, the geometric means (based on two samples) for total nitrogen (0.42 mg/L) and total phosphorus (0.03 mg/L), demonstrated that nutrients remained below the NNC thresholds. The nutrient thresholds and results are found in Table 1.

**Table 1.** FDEP's total nitrogen and phosphorus criteria for streams applied to Plantation Stream. The absence of data mean there was not enough data collected (due to lack of water) to fulfill data requirements.

Plantation Creek	Total Nitrogen Threshold 1.03 mg/L	Total Phosphorus Threshold 0.18 mg/L
2006- 2007	-	-
2008	0.73	0.09
2009	0.21	0.07
2010	0.61	0.07
2011-2014	-	-

#### *Dissolved Oxygen (DO)*

As Figure 1 shows, Plantation Stream seldom met the Class III criteria for DO. This is the result of normally low dissolved oxygen in low gradient, low flow systems like this stream. Another contributing source of naturally low oxygenated water to this stream is the input from a nearby wetland.

#### *Other Parameters*

Other water quality parameters appear to be normal for the area and no impairments were noted.

#### **Conclusions**

Based on ongoing sampling, Plantation Stream met the nutrient thresholds for the Big Bend Bioregion. While DO results did not meet Class III water quality standards, low gradient low flow streams normally have low DO values which, in this case, were further exacerbated by the input from the adjacent wetland. Other water quality parameters appear to be normal for the area and no impairments were noted.

Thank you for your interest in maintaining the quality of Leon County's water resources. Please feel free to contact us if you have any questions.

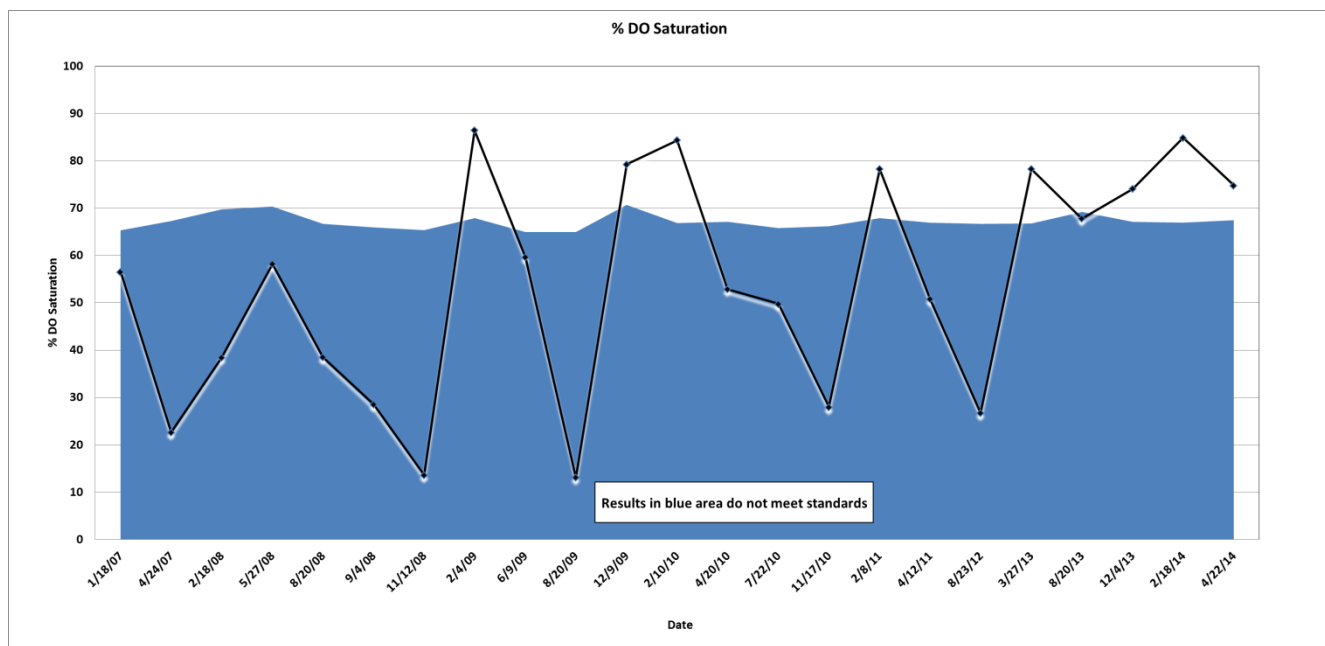
#### **Contact and resources for more information**

[www.LeonCountyFL.gov/WaterResources](http://www.LeonCountyFL.gov/WaterResources)

[Click here to access the results for all water quality stations sampled in 2014.](#)

[Click here for map of watershed – Sample site 20.](#)

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**Figure 1.** Dissolved Oxygen Percent Saturation results for Plantation Stream.